

## DATA ANALYSIS TALENT AWARD: A GIANT LEAP!

Saleha Naghmi Habibullah  
Kinnaird College for Women  
Pakistan

*Ever since 1985, the Department of Statistics at Kinnaird College for Women, Lahore, Pakistan has been engaged in a large number of projects and programmes aimed at the improvement of statistical education in the country. These include (a) statistical competitions for students, (b) statistical exhibitions, and (c) workshops for lecturers and assistant professors working in various intermediate and degree colleges of Pakistan (Habibullah, 1992, 1994, 1995, 2001). The year 1997 witnessed the very first efforts of the Kinnaird College Statistics Department to expand the statistical competition to the worldwide community of students/young adults (Habibullah, 1999). The competition entitled "Data Analysis Talent Award (DATA)" invites students to indulge in projects involving collection and analysis of real-life data, and to write comprehensive reports regarding their projects.*

### METHODOLOGY

The title "Data Analysis Talent Award" was conceived by the author some time in early 1997, and the format as well as the rules and regulations of the competition were chalked out and drafted by the author and her very energetic and enthusiastic team of B.A./ B.Sc. students during February – March 1997. The main points of the Rules and Regulations for DATA 1998 were as follows:

*Eligibility.* The competition is open to the worldwide community of students/young adults (both men and women) whose date of birth is any date between 16<sup>th</sup> March, 1972 and 15<sup>th</sup> November, 1979, both days inclusive. Competitors can participate in the competition either individually or in the form of teams with or without the supervision/guidance of an expert/professor.

#### *Procedure*

- (a) Choose the *topic* of your study.
- (b) Decide the *specific objectives* of your study.
- (c) Decide the *source* of your data.
- (d) Devise a *methodology* for data-collection, and *collect your data*.
- (e) *Analyse* the collected data, and *draw conclusions*.
- (f) Present your study in the form of a *report*. The report must clearly present *all* the salient features of your study including (a), (b) (c), (d) and (e) above, and must be in *English*.

*Submission of Entry.* The entry consisting of (a) the *entry proforma*, and (b) the *project report* must reach Kinnaird College for Women, Lahore, Pakistan by 30<sup>th</sup> April 1998.

*Procedure for Judgement.* A panel of three to five *international judges* will be appointed by Kinnaird College for Women and their judgement will be considered final. Marks will be allocated for: (a) Topic of the study (Competitors are encouraged to select topics which have some social significance/usefulness to the local community/worldwide importance.) (b) Logic of analysis (the relevance of the various statistical techniques/ formulae applied and the appropriateness of the conclusions drawn). (c) Clarity of presentation (The report should be written in such a way that the various arguments presented follow a logical sequence).

Marks allocated to each entry by each judge will be added to obtain the *overall* marks.

#### *Conferment of Data Analysis Talent Award 1998.*

(a) The Data Analysis Talent Award 1998 will be awarded to the best entry. The prize will be:

- (i) An *Engraved Shield* for the supervisor/team-leader.
- (ii) A *Certificate of Merit* for each team-member.
- (iii) A *beautiful souvenir from Pakistan* (for each team-member).

(b) The Runner-Up Prize will be awarded to the second-best entry.

(c) Every participant of this competition will be awarded a *Certificate of Participation*.

The letter containing the DATA Rules and Regulations included abstracts of prize-winning entries from the national competitions launched by the Kinnaird College Statistics Department during the past few years. The titles of these entries were “Criminal Women”, “Selection of Occupation by Female Students” and “Impact of Reading Habits on Students’ Profiles”.

Rules and Regulations of DATA 1998 were mailed and emailed to numerous universities around the world in 1997-98. As indicated above, the deadline for the receipt of entries was fixed as 30 April, 1998. Rules and Regulations of DATA 2000 were very similar to those of DATA 1998 with the addition of mailing (by ordinary mail) an advertisement-poster to numerous institutions worldwide requesting that it be displayed on the students' notice-board. Salient features of entries received for the above-mentioned two competitions are given below.

#### ROUND I - DATA 1998

*Entries Received.* A total of ten entries were received for the competition, nine from within Pakistan and one from Italy. Titles of the entries are given in Table 1.

Table 1

*Titles of Ten Entries Received*

Sr. No.	Country	Institution	Supervisor/ Team Leader	Title of Entry
1	Pakistan	University of Karachi	Muhammad Aslam	Prevalence Survey of Diabetes and Study of its Risk Factors.
2	Pakistan	Govt. College for Women, Shahra-e-Liaquat, Karachi	Naheed Saleh Memon	Domestic Violence and its Psychological Impact on Women.
3	Pakistan	The International University (TIU), Lahore.	Ahmad Hussain	Pakistan Railway & Stations.
4	Pakistan	Govt. Postgraduate College for Women, Satellite Town, Rawalpindi.	Zainab Javed	The Emerging Monster of Unemployment
5	Italy	University of Trieste	Dario Gregori	The Burn-out Syndrome in Helping Profession
6	Pakistan	Govt. College for Women, Shahra-e-Liaquat, Karachi	Naheed Saleh Memon	Child Sexual Abuse
7	Pakistan	University of Karachi	Muhammad Akram	Effect of Advertisement through Television.
8	Pakistan	The International University (TIU), Lahore.	M. Waqar Khan	A Project on Restaurants of Lahore
9	Pakistan	Govt. Postgraduate College for Women, Satellite Town, Rawalpindi.	Zainab Javed	Dilemma of Working Women.
10	Pakistan	University of Karachi	Muhammad Akram	A Comparison of PTV and NTM in Different Disciplines

*Judgement.* The following three international experts acted as the panel of judges for the competition.

- (a) Prof. Ramesh Gupta,  
University of Maine, USA
- (b) Prof. Derrick Tracy,  
University of Windsor, Ontario, Canada.
- (c) Dr. Ashraf Chaudhry,  
University of the Punjab, Lahore, Pakistan.

*Prize-Winning Entries* In accordance with the decision of the judges, the First Prize went to entry no. 5, "The Burn-out Syndrome in Helping Profession" by Dario Gregori of the University of Trieste, Italy. The Runner-Up Prize went to entry no. 4, "The Emerging Monster of Unemployment" by Zainab Javed of Govt. Postgraduate College for Women, Satellite Town, Rawalpindi.

*Prize Distribution Ceremony.* The Kinnaird College Statistics Forum for the Enlightenment of Students, Teachers, Innovators, Veterans, Amateurs and Learners (Kinnaird College Statistics FESTIVAL 2000) was held in October 1998. At this occasion, one entire Scientific Session was devoted to DATA 1998 in which the competition rules as well as the salient features of the various entries were presented. Results of the competition were announced, and certificates and prizes were presented to all those who were physically present at this occasion.

## ROUND II - DATA 2000

*Entries Received.* Similar to DATA 1998, ten entries were received for the second round of the competition. This time, six entries came from within Pakistan, whereas *four* were received from other countries of the world. Titles of the ten entries are given in Table 2.

Table 2

*Titles of Ten Entries*

Sr. No.	Country	Institution	Supervisor/ Team Leader	Title of Entry
1	South Africa	University of Cape Town	Timothy Dunne	Academic Performance of Science Students at the University of Cape Town
2	Pakistan	Queen Mary College, Lahore.	Humaira Cheema	Sub-Continental Festival ----- Basant
3	Pakistan	University of Karachi	Mohd. Akram	Family size is affected by the qualifications of parents.
4	Denmark	Aarhus School of Business	Petes Østergaard	The Danish Strawberry -Related Life Style
5	Pakistan	Queen Mary College, Lahore.	Humaira Cheema	My Life Companion
6	Pakistan	University of Karachi	Mohd. Akram	How good a student are you?
7	Pakistan	Gomal University	Sajjad Husain Shah Bokhari	Secondary Science Education in Dera Ismail Khan Division.
8	Turkey	----	Banu Ozakcan	Risk premiums for motor vehicle insurance.
9	Pakistan	University of Karachi	Mohd. Akram	Why only Pakistan is the main traget on child labour?
10	South Africa	Medical Research Council Biostatistics Unit	Carl Lombard	Does home environment of adolescents predict substance use?

*Judgement.* Judgement of the DATA 2000 competition was carried out in two stages. In the first stage (the process of pre-selection), five entries were selected out of the ten received, and in the second stage, the top two positions were determined by a panel of international judges. The following three experts were engaged for the process of pre-selection:

- (1) Dr. Munir Ahmad  
The University of Lahore, Lahore, Pakistan.
- (2) Dr. F.D.Zaman  
King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia
- (3) Dr. Anwar Khalil Sheikh  
King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

The following three international experts acted as the panel of judges for the *final* selection of the best and second-best entries:

- (1) Prof. Serge R. Provost  
The University of Western Ontario, London, Ontario, Canada.
- (2) Dr. Munir Ahmad  
The University of Lahore, Lahore, Pakistan.
- (3) Dr. Lidia Z. Filus  
Northeastern Illinois University, Chicago, USA.

*Prize-Winning Entries.* In accordance with the decision of the judges, the First Prize went to entry no.4, “The Danish Strawberry-Related Life Style” by Peder Østergaard and Kristina Risom of the Aarhus School of Business, Denmark. The second position was attained by entry no.10, “Does Home Environment of Adolescents Predict Substance Use?” by Carl Lombard and Martie Muller of the Biostatistics Unit, Medical Research Council, Tygerberg, South Africa. As far as entries from within Pakistan were concerned, entry no.4, “Why only Pakistan is the Main Target on Child Labour?” by Mohd. Akram and students of the Department of Statistics, University of Karachi was regarded as the best entry from within the country, and was awarded a certificate of commendation.

#### SUMMARIES OF TWO PRIZE-WINNING ENTRIES.

*Entry #4: The Danish Strawberry – Related Life Style.* This paper is based on a study of the consumer behaviour for strawberries in Denmark. The aim of the paper is to explore whether the Danish strawberry-related life style is shifting significantly enough to endanger the Danish strawberry farmers.

A food-related life style model was used as a tool for describing the strawberry-related life style and its consequences for the Danish strawberry farmers. The model was made up of the following five parameters:

- (a) the buying motives,
- (b) usage situation,
- (c) quality aspects,
- (d) meal preparation scripts, and
- (e) shopping scripts.

The paper examined the following hypothesis: The Danish strawberry-related life style shifts towards convenience. The paper concludes that:

- The age-group up to 29 does not eat strawberries.
- The classes with younger people are less interested in buying strawberries than the older age-groups.
- The classes with younger people are more interested in buying imported strawberries than domestic ones.
- The traditionals dominated by people aged 50 and above are holding up traditions, preparing jam, while the others focus on meal preparation.
- The traditionals are the loyal class, whereas the ones who are growing up are critically evaluating the product they buy.

*Entry # 10: Does Home Environment of Adolescents Predict Substance Use?* The study was conducted in Cape Town, South Africa to investigate substance use among high school students. The objectives of this project were (a) to estimate prevalence-rates of last month's substance use among adolescents in Cape Town, and (b) to model last month's substance use on relevant confounders (i.e. age, gender and race), risk factors (other substances), and home-environment factors.

The study concluded that repeating a year at school, not being raised by both biological parents, length of time lived in a city, and absenteeism appear to be correlated with conditional as well as joint substance use. With regard to the length of time lived in a city, it is possible that for some students there is a breakdown of parental and other controls which facilitates substance use. It was found that, in general, substance use is higher in adolescents coming from non-intact families.

*Entry # 9: Why only Pakistan is the Main Target on Child Labour?* This research aimed at considering the problem concerning child labour in order to ascertain how badly it may cost Pakistan. The study was conducted on the basis of published data. The research was based on a study of the skewed distribution of wealth, statistics of child labour, and inter-provincial comparison of child labour. Next, comparisons were made among China, India and Pakistan by analyzing the prevailing situation on the basis of various facts and figures.

The study asserted that it is hypocrisy and a cruel game played by the multi-national corporations and the West, because the implementation of laws and the pressure of the West to implement these laws is mainly on the *export* items, and more strictly on Pakistan because Pakistan's economy largely depends on foreign exchange which is earned by exporting sports items, etc. On the other hand, child labour violation in the West and other developed countries is ignored either due to the pressure of multi-national companies, political reasons, or because these countries have large markets (economy) in the world.

The study concluded that it is a fact that child labour is a significant problem in Pakistan and all over the world. The major reason for child labour is poverty. Lack of adequate and accessible sources of credit forces poor parents to engage their children in the *harsher* form of child labour i.e. bonded child labour. Another important factor is access to education. Child labour cannot be eliminated by focusing on one factor only, and hence there is a need to adjust the situation by tackling the underlying manifold forces of child labour through governmental policies.

#### PRIZE DISTRIBUTION CEREMONY

The Prize Distribution Ceremony of DATA 2000 took place during the Kinnaird College Statistics FESTIVAL held on October 23-24, 2000. Summaries of the various entries were presented by Kinnaird students at this occasion which stimulated a lot of interest!

#### COMMENTS FROM JUDGES

In addition to the marks, the judges of DATA 2000 provided their expert comments regarding the various entries and the usefulness of the competition. Prof. Serge Provost wrote: *All entries were interesting for various reasons... I note the use of generalized estimating equation in the interesting article on the influence of home environment on substance abuse... the clearest account was possibly the article on the Danish strawberry-related life style. It contains illustrative graphics and its statistical methodology is sound. The analysis is clear and detailed...I was delighted to act as judge in this very worthy international competition.* Dr. Lidia Filus wrote: *I need to tell you that it has been a pleasure to be a judge at this competition. It is such a nice event! Congratulations on this initiative, and thanks for organizing it.*

#### CONCLUDING REMARKS

International competitions of this nature can play an important role in developing the data-analytical skills of the young generation of today, and in acting as a *frame of reference* for the international community of students. As far as Kinnaird College is concerned, this project can be regarded as a *giant leap* in the series of initiatives that have been taken for the promotion of creative work in the field of statistical education.

## REFERENCES

- Habibullah, S.N. (1992). *Efforts to promote project-based teaching of introductory statistics in the city of Lahore*. Paper presented at the 7<sup>th</sup> International Congress of Mathematics Education (ICME 7), Quebec, Canada.
- Habibullah, S.N. (1994). Kinnaird inter-collegiate statistical competition: an endeavour to improve the quality of statistical education at the undergraduate level in Pakistan. *Proceedings of the 5<sup>th</sup> Statistics Seminar of the University of Karachi*, Karachi, Pakistan.
- Habibullah, S.N. (1995). *Statistics teachers' educational program: A refresher course with a difference*. Paper presented at the 50<sup>th</sup> Session of the International Statistical Institute (ISI), Beijing, China.
- Habibullah, S.N. (1999). *Data analysis talent award: An important step forward*. Paper presented at the 52<sup>nd</sup> Session of the International Statistical Institute (ISI), Helsinki, Finland.
- Habibullah, S.N. (2001). *KISC and CODAK: An indirect yet effective way of promoting statistical thinking among the general community of students and teachers!* Paper presented at the IASE Satellite Conference on Statistical Literacy, Seoul, Korea.